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ABSTRACT

This study, conducted by the Instructional Technology Department (ITD) at the Community College of Allegheny County (CCAC) in Western Pennsylvania, describes the results of a faculty needs assessment in the area of technology and distance learning. The Faculty Technology Skills Survey was administered to 490 full-time faculty members in order to determine faculty proficiency in using computer technology and the most effective strategies for developing distance learning. One hundred and one faculty members completed the survey, for a response rate of 21%. Key findings include: (1) 62% of faculty reported using a computer on a daily basis, with the highest usage in word processing software and email; (2) 49% of faculty respondents did not use the Internet in their classes, and 14% were not aware of the ways the Internet could be used; (3) 46% of the faculty identified lack of time as a major barrier to integrating more technology into their classrooms, and 33% noted that adequate technical support and lack of training were barriers as well. Based on the results, recommendations were made for preparing faculty to author and teach courses through the World Wide Web. A sample survey is appended. (CB)

Making the Transition from Traditional to Cyberspace Classrooms

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MAKING THE TRANSITION FROM TRADITIONAL TO CYBERSPACE CLASSROOMS

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Abstract

The Community College Plan to expand its distance education program and integrate technology into the classroom requires new knowledge and skills for faculty. This study describes the results of a faculty needs assessment administered by the Instructional Technology Department. A faculty survey was used to measure faculty proficiency in using computer technology. Based on the results, recommendations were made for preparing faculty to author and teach courses through the World Wide Web.

Introduction

Community colleges have long prided themselves on providing high quality education to a wide spectrum of students. In this Age of Information, technology is rapidly changing the dynamics of the community college learning environment, presenting both opportunities and challenges to faculty and administrators. One of the opportunities lies in the tremendous potential of the Internet and online instruction.

Transcending time and distance, online courses tap a new market of learners. Both community college learners and their potential employers not only expect but demand the use of technology. However, technology does not teach students -- instructors do. The challenge, therefore, is for faculty to develop the skills-set to move from traditional classrooms to cyberspace classrooms. Faculty with the ability to teach both online and face-to-face are a valuable asset for their college.

The purpose of this article is to describe the results of the needs assessment used at the Community College of Allegheny County to determine the training and development programs required by faculty to develop online courses. Through a faculty computer technology skills survey, the Instructional Technology Department was able to assess faculty's current skill level. Based on the results of the survey, recommendations are made for faculty development initiatives.

Review of the Literature

Worldwide Internet access continues to grow at an astonishing rate. Wallace and Rennie (2000) reported more than half of all Americans have Internet access from home, work, or school. In fact, over 179 million people currently access the Web. Furthermore, of the 45 million people surfing the Web each week, 81% are between the ages of 18 and 49. This provides a growing market of learners for community colleges. Through online courses, instructors now have the ability to reach this previously inaccessible pool of learners.

Also growing is the number of courses being offered on the Internet. In a survey of traditional and distance learning higher education members, the National Education Association (2000) noted:

Faculty teaching distance learning courses and faculty teaching traditional courses hold positive opinions about distance learning, primarily because distance learning courses offer educational opportunities to students who would not otherwise enroll in courses. While faculty believe they will be hurt financially by distance learning, and financial considerations are very important to them, at the current time, their enthusiasm for offering an education to more students outweighs these concerns (p. 4).

The challenge to instructors is developing skills in computer technology and knowledge in the andragogy/pedagogy of online instructional design. Taber (1998) surveyed 550 community colleges and noted one primary reason why more institutions have not integrated technology into their classrooms "has to do with a lack of trained faculty to use discipline-specific technologies in the classroom or for distance education" (p. 159). In fact, the majority of faculty members did not receive formal instructional technology training in their teacher education programs. Therefore, it is the institution's responsibility to support faculty in acquiring the necessary competencies.

In a review of literature regarding technology integration in community colleges, Leider (1998) emphasized the high costs of incorporating technology into classrooms. It can be challenging because

both the academic and administrative domains have rapidly changing technology needs. He suggested concentrating technology dollars in the top 10 to 25 highest enrollment courses (usually English, math, psychology, accounting, biology, and speech) because new learning technology in these courses would then benefit the greatest number of learners.

Despite the costs of implementing instructional technology at community colleges, McKinney (1996) noted the benefits include increased instructor flexibility, increased student interest and learning, and greater flexibility of instructional delivery. Furthermore, she observed faculty implementing technology into their face-to-face classrooms in two ways: first, as a hybrid or add-on feature to enhance traditional teaching methods; and second, as self-paced, computer-based, multi-media course content.

Following the literature review, transition to online teaching was viewed as a process. The literature reinforced the need for a survey to systemically plan the process. In this faculty development planning process, Horgan (1998) noted the importance of ensuring that technology support instruction, not vice versa. Faculty are the subject matter and teaching and learning specialists who can provide valuable information in technology integration.

Setting

The setting for this project is the Community College of Allegheny County (CCAC) in Western Pennsylvania. CCAC is the largest community college in Pennsylvania and consists of four campuses and eight neighborhood centers throughout the county. Founded in 1963, CCAC serves over 16,000 students with 490 full-time and 1000 part-time faculty. The Instructional Technology Department (ITD) consists of a Dean of Instructional Technology and two full-time staff members. The efforts of the ITD are supported by the Professional Development Coordinator and the Computer Technology Department. In 1999, a major initiative focusing on professional development was fostered by the new CCAC President. As a result, the Professional Development Committee and the Faculty Subcommittee were formed. At the time this project began, CCAC offered over 33 online courses in math, health professions, science, business, and computer and information technology. In order to more effectively serve the student population, the 1999-2001 College Plan focuses on initiatives that expand the College distance education program and integrate technology into the classroom.

Methodology

Recognizing the need for updated skills in new web and computer technologies, the Faculty Subcommittee for Professional Development requested additional learning opportunities for faculty. To study the skills gap of where CCAC faculty were and where they wanted to be, data was collected through a faculty survey. The Faculty Technology Skills Survey was designed by the Instructional Technology Department to determine faculty skills and the most effective development strategies. It was distributed to 490 full-time faculty members, and the response rate was 101 completed surveys or 21 percent. See Appendix A for the Faculty Technology Skills Survey.

Findings

The use of computer technology in teaching a course can range from holding a class on the World Wide Web to using an interactive CD ROM to submitting assignments with email. Faculty possess a wide variety of skills in using the computer technology available to them. In general, CCAC instructors reported competence and confidence in operating a computer. Sixty-two percent reported using the computer on a daily basis, but 7 percent reported never using a computer. The highest faculty usage was in word processing software and email. Most were competent in basic computer operations and file management. The use of spreadsheet, database, or graphics software was less common. Forty-two percent of faculty felt comfortable enough to teach others some basic computer operations. See Table 1 for a summary of faculty responses.

Table 1: Faculty Technology Skills Survey Results

| NUMBER | MEAN | NUMBER | MEAN |
|--------|------|--------|------|
| 4 | 1.78 | 28 | 1.97 |
| 5 | 2.15 | 29 | 2.04 |
| 6 | 3.92 | 30 | 1.77 |
| 7 | 4.08 | 31 | 2.23 |
| 8 | 4.03 | 32 | 3.01 |

| | | | |
|----|------|----|------|
| 9 | 4.01 | 33 | 2.84 |
| 10 | 4.61 | 34 | 3.03 |
| 11 | 1.71 | 35 | 2.29 |
| 12 | 2.30 | 36 | 2.00 |
| 13 | 3.11 | 37 | 2.49 |
| 14 | 1.71 | 38 | 1.71 |
| 15 | 1.76 | 39 | 3.17 |
| 16 | 2.79 | 40 | 2.24 |
| 17 | 2.98 | 41 | 2.49 |
| 18 | 3.01 | 42 | 2.78 |
| 19 | 2.7 | 43 | 2.47 |
| 20 | 3.13 | 44 | 3.18 |
| 21 | 1.79 | 45 | 2.80 |
| 22 | 1.74 | 46 | 2.85 |
| 23 | 1.61 | 47 | 2.07 |
| 24 | 1.60 | 48 | 1.65 |
| 25 | 1.39 | 49 | 2.51 |
| 26 | 2.31 | 50 | 2.31 |
| 27 | 1.75 | | |

Most faculty (57 percent) reported regular use of email that included replying to messages, sending and receiving attachments, and administering mailing lists. Only 2 percent reported they did not use email. Thirty percent of faculty respondents used teaching activities in their classes that required use of email. Although comfortable in using the World Wide Web, 66 percent of faculty members reported they could not create a web page and 44 said percent they could not retrieve files from remote computers. Fifty-three percent of the faculty indicated they were "very comfortable" in using search engines, creating bookmarks, and using web browsers. While most instructors recognized that computer technology could be a valuable resource in their teaching, 49 percent of faculty reported they did not use the Internet in their classes. Finally, 14 percent reported they were not aware of ways the Internet could be used in their classrooms.

In the area of student assessment, 60 percent of the instructors indicated they did not use computer technology for student assessment, and 37 percent indicated that they did. Ten percent reported that they did not use electronic resources in their own professional growth or communication. Ninety-five percent of the respondents reported a general understanding of ethical use of computers, and 23 percent indicated an understanding of security issues such as cookies and data privacy.

Forty-six percent of the faculty respondents identified lack of time as a major barrier to integrating more technology into their courses, and 32 percent identified it as a minor barrier. Adequate technical support was reported as a major barrier to using computer technology by 33 percent of faculty respondents, and not enough faculty training was also identified as a major barrier by 33 percent of faculty respondents. Access to computer hardware and computer software tended not to be major barriers.

Discussion

A review of CCAC faculty showed that the average age was 53 years old and 49 percent were female. Those who responded to the survey tended to be typical adult learners. They balance multiple professional responsibilities and are challenged by a limited number of hours in each day. They proved to be self-directed and motivated in developing skills they consider relevant to their jobs. The computer tasks they perform most frequently are logically those they have the most skill and confidence in using. Since majority of faculty did not grow up with computer training as part of their formal education process, the College offers computer workshops for faculty and staff through the professional development program.

Findings from the study provided the Instructional Technology Department with basic information for developing their programs and meeting their goals to expand the distance education program and integrate technology into the classroom. The information collected will also be helpful in budgeting and grant writing.

Recommendations

Instructional technology decision makers benefit from the input of faculty, administrators, staff, and students. Based on the results of the faculty surveys, the authors identified the following recommendations:

1. Because lack of faculty training opportunities was identified as a barrier by one-third of faculty responding to the survey, CCAC should continue to provide computer training to faculty at both the beginner and advanced levels. Training schedules should be varied in days, times, and locations to accommodate full-time and part-time teaching faculty. Faculty should be encouraged to integrate the Internet and other forms of technology into their classes as a supplement to the current content and format. For example, the Instructional Technologist at CCAC facilitates an online faculty development course, Introduction to Web-Based Teaching and Training. However, before instructors can benefit from this opportunity, they need a minimum level of computer competence.
2. Faculty training sessions are already taking place at CCAC, but some faculty members are unaware of the opportunities. For this reason, there is a need to promote communication. Faculty members should be informed through web sites, newsletters, email, brown bag lunches, and department chairpersons of the opportunities to integrate instructional technology into their courses. CCAC has established a peer faculty mentoring program. Faculty members with advanced technology skills are coaching their colleagues to use instructional technologies. Both mentors and proteges volunteer to participate in the program, but some faculty are unaware of this initiative.
3. CCAC should offer incentives for faculty to integrate technology into their programs. Remuneration in the form of released time, paid sabbaticals, or stipends may be the most helpful inducements. Compared to standard courses, development of online courses requires more faculty time and higher level computer skills. Therefore, to expedite such as initiative, grant funding would benefit the College. In an attempt to explore one possibility, CCAC conducted Summer technology Institute 2000. For one month, ten instructors received full pay for participating in daily workshops to develop their classroom courses into online courses or to integrate technology into their current face-to-face courses. Instructional technology designers with expertise in online pedagogy and technology facilitated the Institute. More programs of this type are needed throughout the year.
4. The College needs to develop a policy for managing the development of online courses. The policy should address the following: will faculty be paid for time involved in developing an online course; who will teach the course; what will be the instructor/student ratio; what will be the instructor's remuneration. Finally, time is a major concern for faculty.
5. The need continues for administration's commitment and support for integrating technology into the learning environment. Vision provided by college administrators will help to guide the planning process. The commitment to offer online courses requires a large investment in resources. Therefore, administrative assistance is crucial for funding, technical support and training personnel as well as for acquiring software and state-of-the-art equipment.
6. There is a need for both faculty and the Instructional Technology Department to evaluate off-the-shelf or third party course facilitation software products as an alternative to faculty developing online courses from scratch. Currently, CCAC uses BlackBoard's CourseInfo (see www.blackboard.com) to develop online courses. The software incorporates options for chat and threaded discussion that are easily managed by course instructors. Textbook publishers also offer technology which can be integrated into courses.

Limitations

This study had several limitations. Faculty members who completed the Technology Skills Survey volunteered to do so. Their self-selection may have skewed results. Faculty respondents may have had higher than average computer skills and confidence and, therefore, were more willing to share their responses. Additional demographic information would have been helpful in correlating faculty technology skills to gender, race, age, and teaching experience. Furthermore, the 8-page survey may have been too long for time-challenged faculty to read and complete.

Conclusion

Instructional technology offers a new paradigm to the community college that requires additional knowledge and skills for traditional classroom instructors. Successful development of online courses involves more than putting classroom lecture notes onto the Web. It requires sophisticated computer skills and new strategies for teaching, assessment, and interaction. Many community college students have

grown up with technology and expect technology to be a significant part of their learning experience. Employers expect to hire graduates with at least basic levels of computer literacy. As CCAC continues to integrate instructional technology and distance education into its learning community, a systematic plan with a clear vision brings order to the process. Faculty need knowledge, skills, and support to implement the College Plan for the future. The current culture, which values high-quality, face-to-face interaction in a learner-focused environment, wishes to transfer these principles to online classrooms. The opportunities for community college faculty are immense and compelling.

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Community College of Allegheny County

Faculty Technology Skills Survey

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Please use the answer sheet provided to respond to all of the questions in this survey. Select only one answer per question.

1. On which Campus do you teach most of your classes? If you teach at a College Center, select the Campus to which the Center reports.
 - A. Allegheny
 - B. Boyce
 - C. North
 - D. South

2. What is your primary teaching assignment?
 - A. Social Sciences
 - B. Humanities
 - C. Physical Sciences & Engineering
 - D. CIT/AOP E. Health Professions

3. How do you classify your main assignment at the college?

- A. Full-Time Faculty
- B. Adjunct Faculty
- C. Non-Teaching Faculty

On your answer sheet, please indicate how often you use each of these applications with or for your students, using the following scale:

A=Daily, B=Weekly, C=Monthly, D=Twice a year, E=Never

4. Computers in general
5. Word processing packages -- example: WORD
6. Spreadsheet software -- example: EXCEL
7. Database Software -- example: ACCESS (excluding MILO)
8. Software to create graphics -- examples: Adobe PhotoShop; Paint Shop
9. Presentation software -- example: PowerPoint
10. Desktop publishing -- example: Page Maker
11. Any Internet activity -- examples: email; Web
12. Search engines for the Internet -- examples: Lycos, Yahoo

On your answer sheet please indicate your use of the Internet:

13. How do you use the Internet in or for your classes?
 - A. To gather information from a variety of sources
 - B. To communicate with others outside of the college
 - C. To create web sites to support courses
 - D. More than one of the above
 - E. Never use the Internet

On your answer sheet, please indicate your comfort level with questions 14 through 22 using the following scale: A=Very Comfortable, B=Moderately Comfortable, C=Would Need Some Help to Feel Comfortable, D=Would Need a Lot of Help to Feel Comfortable:

14. Computers in general
15. Word processing packages -- example: WORD
16. Spreadsheets -- example: EXCEL
17. Databases -- example: ACCESS
18. Software to create graphics -- example: Adobe PhotoShop
19. Presentation software -- example: Power Point
20. Desktop publishing -- example: Page Maker
21. Internet software -- example: Netscape
22. Search engines for the Internet -- examples: Lycos, Yahoo

On your answer sheet, please indicate for questions 23 through 32 whether any of the following are barriers to integrating technology into your course using the following scale: A=Not a Barrier, B=Minor Barrier, C=Major Barrier

23. Not enough or limited access to computer hardware

- 24. Not enough computer software
- 25. Purchased software has not been installed
- 26. Lack of time in your teaching schedule for projects involving technology
- 27. Use of technology not integrated into textbooks
- 28. Lack of adequate technical support for technology projects
- 29. Not enough faculty training opportunities for technology projects
- 30. Lack of knowledge about ways to integrate technology to enhance curriculum
- 31. Students do not have access to the necessary technology at home

On your answer sheet fill in the letter that best corresponds with your current computer skills in each of the following areas. "A" is the lowest and "D" or "E" assumes the highest level of proficiency or understanding.

32. Basic computer operation:

- A. I do not use a computer. It has little effect on either my work or home life. I am somewhat anxious I might damage the machine or its programs.
- B. I can use the computer to run a few specific preloaded programs, load software, and print.
- C. I can set-up my computer and peripheral devices. I can use most of the operating systems tools like the scrapbook, clock, note pad, find command, and trash can (recycling bin). I can format a data disk.
- D. I can run two programs simultaneously, and have several windows open at the same time. I can customize the look and sounds of my computer. I use techniques to maximize my operating system. I feel confident enough to teach others some basic operations.

33. File management:

- A. I do not save any documents I create using the computer.
- B. I save documents I've created but I cannot locate them once they are saved. I do not back-up my files.
- C. I have a filing system for organizing my files, and can locate files quickly and reliably.
- D. I regularly run a disk-optimizer on my hard drive, and use a back-up program to make copies of my files on a weekly basis.

34. Word processing:

- A. I do not use a word processor. I cannot identify any uses or features it might have which would benefit the way I work. I generally find it easier to hand write or type most written work I do.
- B. I occasionally use the word processor for simple documents that I know I will modify and use again.
- C. I use the word processor for nearly all my written professional work: memos, tests, worksheets, and home communication. I can edit, spell check, and change the format of a document. I can paginate, preview and print my work.
- D. I use the word processor not only for my work, but have used it with students to help them improve their own communication skills.

35. Spreadsheet use:

- A. I do not use a spreadsheet, but I can identify uses or features it might have which would benefit the way I work.
- B. I understand the use of a spreadsheet and can navigate within one. I can create a simple spreadsheet which adds a column of numbers.
- C. I can change the format of the spreadsheets by changing column widths and text style. I can use the spreadsheet to make a simple graph or chart.

- D. I use a spreadsheet for several applications. These spreadsheets use labels, formulas and cell references.
- E. I use the spreadsheet not only for my work, but have used it with students to help them improve their own data keeping and analysis skills.

36. Database use:

- A. I do not use a database, but I can identify uses or features it might have which would benefit the way I work.
- B. I understand the use of a database and can locate information within one which has been pre-made. I can add or delete data in a pre-made database.
- C. I can create an original database -- defining fields and creating layouts. I can find, sort and print information in layouts which are clear and useful to me.
- D. I can use formulas with my database to create summaries of numerical data; I can use database information to mail merge in a word processing document.
- E. I use the database not only for my work, but have used it with students to help them improve their own data keeping and analysis skills.

37. Graphics use:

- A. I do not use graphics in my word processing or presentations, but I can identify uses or features they might have which would benefit the way I work.
- B. I can open and create simple pictures with the painting and drawing programs.
- C. I use both pre-made clip art and simple original graphics in my word-processed documents and presentations. I can edit clip art, change its size, and place it on a page.
- D. I can purposefully use most of the drawing tools, and can group and ungroup objects. I can use the clipboard to take graphics from one application for use in another.
- E. I use graphics not only for my work, but have used it with students to help them improve their own communication skills.

38. Student Assessment:

- A. I do not use the computer for student assessment.
- B. I keep some student produced materials on the computer, and write evaluations of student work with the word processor.
- C. I effectively use an electronic grade book to keep track of student data and or keep portfolios of student produced materials on the computer.
- D. I rely on the computer to keep track of outcomes and objectives individual students have mastered. I use that information in determining assignments, teaching strategies, and groupings.

39. Ethical use understanding:

- A. I am not aware of any ethical issues surrounding computer use.
- B. I know that some copyright restrictions apply to computer software.
- C. I clearly understand the difference between freeware, shareware, and commercial software and the fees involved in the use of each.
- D. I am aware of other controversial aspects of technology use including data privacy, equitable access, and free speech issues.

40. Instructional software use:

- A. I do not use instructional software as a part of my instructional program, nor am I aware of any titles which might help my students meet their learning goals.
- B. I use a few computer programs as an instructional supplement, as a reward, or with special needs students.
- C. I use several programs (drill and practice, simulations, tutorials, etc.) to help all my students meet specific learning objectives. I use technological resources to meet the needs of students who do not respond to traditional methods of instruction.
- D. I seek out new programs for evaluation and adoption. I know sources of software reviews and keep current on new developments in computer technologies through professional reading and

conference attendance. I share my findings with other professionals.

41. Information literacy skills:

- A. I am not familiar with the term information literacy, nor do I know why such skills are important.
- B. I am familiar with information literacy skills within my discipline and I occasionally incorporate them in my teaching.
- C. As a part of my curriculum, I have library research projects and I support the library skills taught by the librarian. I am aware that there are electronic resources available to my students.
- D. My curriculum includes multiple projects that have an information literacy component. I guide my students in accessing, evaluating and using information and experts from worldwide sources through the Internet and video conferencing.

42. Professional growth and communication:

- A. I do not use electronic resources for professional growth or communication.
- B. I can find some research in online databases.
- C. I use the Internet and other online resources to obtain research findings, teaching materials and information related to content of my classes. I read electronic newsletters and journals to keep current on education, and both contribute to and use the best practices discussed there.
- D. I use a computerized presentation program when giving workshops or speaking at conferences. I use technology to take part in distance learning opportunities for my own professional development.
- E. I organize professional growth opportunities for other faculty and feel comfortable teaching other staff members about the use of technology.

43. Internet basics

- A. I do not understand how networks work, nor can I identify any personal or professional uses for networks, including the Internet. I do not have an account on any network nor would I know how to get one.
- B. I can identify some personal or professional uses for networks, and understand they have a use to my students and me. I've read some articles about the Internet in the popular press. I can directly use network access to a library catalog or CD-ROM.
- C. I can describe what a computer network does and how it can be useful personally and professionally. I can distinguish between a local area network, a wide area network, and the Internet and can describe educational uses for each. I can describe the history of the Internet, recognize its international character, and know to a degree the extent of its resources.
- D. I use networks on a daily basis to access and communicate information. I can serve as an active participant in an organizational planning group, giving advice and providing information about networks. I can recommend several ways of obtaining Internet access to others.

44. Email and electronic mailing lists:

- A. I do not use email.
- B. I understand the concept of email and can explain some administrative and educational uses for it.
- C. I use email regularly and can:
 - 1. Read and delete messages.
 - 2. Send, forward and reply to messages.
 - 3. Create nicknames, mailing lists, and a signature file.
 - 4. Send and receive attachments.
 - 5. Use electronic mailing lists and understand the professional uses of them.
 - 6. Read and contribute to a professional mailing list.
- D. I can send group mailings and feel confident that I could administer an electronic mailing list. I use activities that require email in my teaching. I can locate lists of subject oriented mailing lists.

45. The World Wide Web:

- A. I do not use the World Wide Web.
- B. I am aware that the World Wide Web is a means of sharing information on the Internet. I can browse the Web for recreational purposes.

- C. I can use a web browser like Explorer or Netscape to find information on the World Wide Web, and can list some of the web's unique features. I can explain the terms hypertext, URL, http, and html. I can write URLs to share information locations with others. I can use web search engines to locate subject specific information and can create bookmarks to web sites of educational value.
- D. I can configure my web browser with a variety of helper applications. I understand what "cookies" do and whether to keep them enabled. I can speak to the security issues of online commerce and data privacy.

46. Search Tools:

- A. I cannot locate any information on the Internet.
- B. I can occasionally locate useful information on the Internet by browsing or through remembered sources.
- C. I can conduct an efficient search of Internet resources using directories like Yahoo or search engines like Excite, Lycos, or Infoseek. I can use advanced search commands to specify and limit the number of hits I get. I can state some guidelines for evaluating the information I find on the Internet and can write a bibliographic citation for information found.
- D. I can identify some specialized search tools for finding software and email addresses. I can speculate on future developments in online information searching including know-bots and other kinds of intelligent search agents.

47. Obtaining, decompressing, and using files:

- A. I cannot retrieve files from remote computers.
- B. I can transfer files and programs from remote locations to my computer, and can use programs or plug-ins that help me do this.
- C. I can extract compressed files, and know some utilities that help me view graphics and play sounds and movies. I understand the nature and danger of computer viruses, and know how to minimize my risk of contracting a computer virus.
- D. I use information I have retrieved as a resource for and with my students. I understand the concept of a network server, and the functions it can serve in an organization. I can use an ftp client to upload files to a server.

48. Web page construction:

- A. I cannot create a web page which can be viewed with a web browser.
- B. I can save text I've created as an html file with a command in my word processor. I know a few simple HTML commands.
- C. Using hand-coded HTML or a Web page authoring tool, I can:
 - 1. View web pages as a source document.
 - 2. Create a formatted Web page that uses background color, font styles and alignment, graphics, and tables.
 - 3. Include links to other parts of my documents or other Internet sites in my page.
 - 4. Know basic guidelines for good Web page construction and my organization's Web policies.
- D. I can use the Web as an interface to databases. When appropriate, I can register my pages with search engine sites. I can help establish web creation policies for design, content, and use.

49. Learning opportunities using the Internet.

- A. I am not aware of any ways the Internet can be used with students in my classroom.
- B. I occasionally allow my students to use the Internet to find information.
- C. I know a variety of projects and activities that effectively use the Internet to instruct and involve students.
- D. I can design and implement an Internet project or maintain an educational Internet site.

50. Netiquette, online ethics, and current issues surrounding Internet use at Community College of Allegheny County:

- A. I am not aware of any ethics or proprieties regarding the Internet nor am I aware of any issues dealing with Internet use in a college setting.

- B. I understand a few rules that my students and I should follow when using the Internet. I understand that the Internet is sometimes a controversial resource, which many educators do not understand.
- C. I have read a guideline for Internet use such as Rinaldi's "The Net: User Guidelines and Netiquette" or other sources, and follow the rules outlined. I know and read the FAQ files associated with sources on the Internet. I am aware that electronic communication is a new communication medium that may require new sensitivities. I can identify print and online resources that speak to current Internet issues like:
 - 1. Censorship/site blocking software
 - 2. Copyright
 - 3. Legal and illegal uses
 - 4. Data privacy
 - 5. Security
- D. I can use my knowledge of the Internet to write good college policies and activities that help students develop good judgment and good information skills.



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